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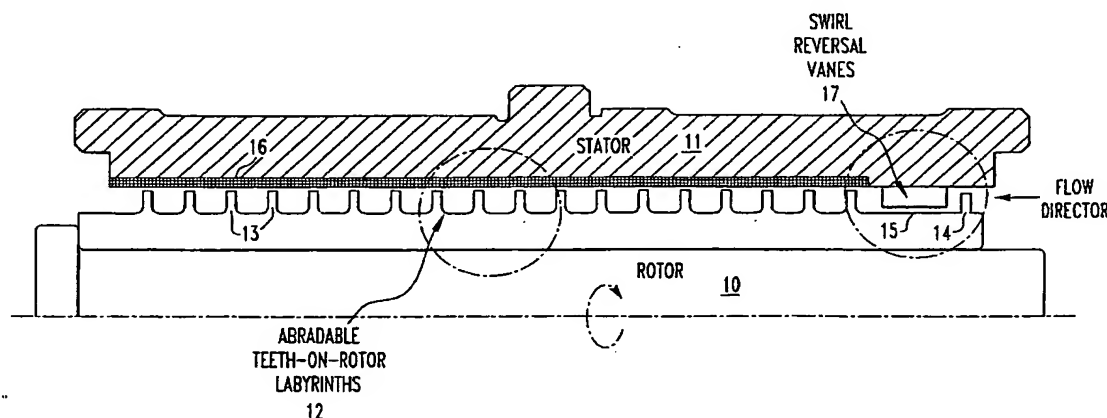
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(54) Title: **SWIRL-REVERSAL ABRADABLE LABYRINTH SEAL**



(57) Abstract: An apparatus for restricting axial flow through the clearance between a rotating shaft and a seal stator comprises an abrasion labyrinth seal and swirl-reversal vanes upstream of the labyrinth seal. The shaft comprises a first toothed axial section having a plurality of annular teeth, a second upstream toothed axial section having a few annular teeth from one to three, and a section therebetween having a cylindrical surface of diameter less than the outer edge of the teeth of the toothed sections, the swirl-reversing vanes being fastened to the stator seal between the toothed sections.

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